

Amendments to the Claims

Claims 1-23 (Canceled)

Claim 24 (New) An apparatus for plating a surface of a substrate to fill a wiring recess in the surface with a metal, said apparatus comprising:

an electroless plating bath for forming an initial layer on the surface of the substrate by electroless plating;

an electrolytic plating bath for filling the wiring recess with the metal by electrolytic plating, wherein the initial layer serves as a feeding layer for the electrolytic plating; and

a transfer mechanism having an arm for transferring the substrate between said electroless plating bath and said electrolytic plating bath.

Claim 25 (New) An apparatus according to claim 24, further comprising a cleaning and drying device for cleaning and spin drying the substrate after the electrolytic plating.

Claim 26 (New) An apparatus according to claim 24, wherein said electrolytic plating bath has a shielding plate having an opening for regulating an electronic field on the surface of the substrate.

Claim 27 (New) An apparatus according to claim 24, further comprising a temporary holding stage for temporarily holding a substrate to be transferred.

Claim 28 (New) An apparatus according to claim 24, further comprising an activation bath for activating the surface of the substrate, and a catalyst application bath for applying a catalyst on the activated surface of the substrate.

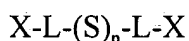
Claim 29 (New) An apparatus according to claim 24, wherein said electroless plating bath has a plating liquid that does not include an alkali metal.

Claim 30 (New) An apparatus according to claim 24, wherein said electroless plating bath has a plating liquid comprising copper sulfate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) having a concentration of 100 to 250 g/l.

Claim 31 (New) An apparatus according to claim 24, wherein said electroless plating bath has a plating liquid comprising sulfuric acid (H_2SO_4) having a concentration of 10 to 100 g/l.

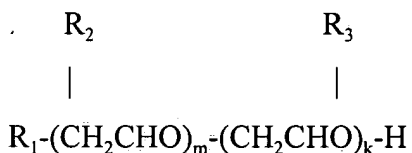
Claim 32 (New) An apparatus according to claim 24, wherein said electroless plating bath has a plating liquid comprising chlorine ions having a concentration of 0 to 100 mg/l.

Claim 33 (New) An apparatus according to claim 24, wherein said electroless plating bath has a plating liquid comprising at least 0.14 to 70 $\mu\text{mol/l}$ of a sulfur compound expressed by a formula



where L is an alkyl group having a carbon number of 1 to 6 which is substituted by a lower alkyl group, a lower alkoxy group, a hydroxyl group, or a halogen atom; n is an integer; X is a hydrogen atom, a $-\text{SO}_3\text{M}$ group, or a $-\text{PO}_3\text{M}$ group; and M indicates a hydrogen atom, an alkali metal atom, or an amino group.

Claim 34 (New) An apparatus according to claim 24, wherein said electroless plating bath has a plating liquid comprising at least 10 to 5000 mg/l of a macromolecular compound expressed in a formula



where R_1 indicates a residue of a higher alcohol group having a carbon number of 8 to 25, a residue of an alkyl phenol with an alkyl group having a carbon of 1 to 25, a residue of an alkyl naphthol with an alkyl group having a carbon number of 1 to 25, a residue of a fatty acid amide having a carbon number of 3 to 22, a residue of an alkylamine having a carbon number of 2 to 4, or

a hydroxyl group; R_2 and R_3 indicate a hydrogen atom or a methyl group; and m and k indicate an integer from 1 to 100.

Claim 35 (New) An apparatus according to claim 24, wherein said electroless plating bath has a plating liquid comprising at least 0.01 to 100 mg/l of a nitrogen compound.